We claim:

1. A device for transport of material or energy across biological barriers comprising one or more microneedles, wherein the microneedles are porous and/or comprise one or more hollow bores.

2. The device of claim 1 wherein the microneedle is fabricated using a micromachining technique selected from the group consisting of lithography, plasma etching, wet chemical etching, dry etching, thermal oxidation of silicon, electroplating, electroless plating, boron diffusion, phosphorus diffusion, arsenic diffusion, antimony diffusion, ion implantation, film deposition, sputtering, chemical vapor deposition, epitaxy, chemical anodization, electrochemical anodization, and combinations thereof.

3. The device of claim 1 wherein the width of the microneedle is between about 10 nm and 1 mm.

4. The device of claim 1 wherein the length of the microneedle is between about 1 μm and 500 μm.

5. The device of claim 1 wherein the microneedle is in communication with a reservoir.

6. The device of claim 1 wherein the microneedle is formed of a material selected from the group consisting of silicon, silicon dioxide, metals, ceramics, polymers, and combinations thereof.

7. The device of claim 1 wherein the microneedle comprises a base end which tapers to a sharp tip end, wherein the length of the microneedle is between about 20 μm and about 200 μm, and wherein the width of the base end is between about 10 μm and 100 μm.

8. A method for transporting material or energy into or across a biological barrier comprising:

(a) inserting into the biological barrier a microneedle which is porous and/or comprises one or more hollow bores; and

(b) applying a driving force to transport the material or energy through the microneedle.

9. The method of claim 8 wherein the biological barrier is skin.

10. The method of claim 8 further comprising vibrating the microneedle.

11. The method of claim 8 wherein the microneedle of step (a) is attached to a reservoir containing drug molecules, wherein the drug molecules pass from the reservoir, through the microneedle, and into or across the barrier.

12. The method of claim 8 wherein the driving force is obtained from a source selected from the group consisting of pressure gradients, concentration gradients, convection iontophoresis, electroporation, waveguiding, and cavitation.

13. The method of claim 8 wherein the microneedle of step (a) is attached to a reservoir, and a driving force is applied to force the material or energy to pass from or across the barrier, through the microneedle, and into the reservoir.

14. A method for transporting material or energy across a biological barrier comprising

(a) inserting a microneedle into the biological barrier;

(b) removing the microneedle from the barrier to create a hole in the barrier; and

(b) applying the material or energy into the holes.

15. A method of making a porous or hollow microneedle for transport of material or energy across biological barriers, the method comprising:

forming a microneedle using a micromachining technique selected from the group consisting of lithography, plasma etching, wet chemical etching, dry etching, thermal oxidation of silicon, electroplating, electroless plating, boron diffusion, phosphorus diffusion, arsenic diffusion, antimony diffusion, ion implantation, film deposition, sputtering, chemical vapor

deposition, epitaxy, chemical anodization, electrochemical anodization, and combinations thereof.